

July 08, 2016 10:32:53 AM

148786

Page 1

Item ID: D3451-045

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Handle And Lock-Down Assembly

Stop *NS2*

Start Date: 7/8/2016 **Start Qty:** 2.00

~

Cust Item ID:

Required Date: 8/3/2016 **Req'd Qty:** 2.00

~

Customer:

Reference:

Approvals: Process Plan: SH

Date: 7/12/16.

Tooling:

Date:

Run Start *NR1*

OC:

Date: _____ **SPC (Y/N):** _____

Date:

Stop ***NR2***

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

Work Order ID 148786

July 08, 2016 10:32:53 AM

148786

Page 2

Item ID: D3451-045 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Handle And Lock-Down Assembly
 Start Date: 7/8/2016 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 8/3/2016 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* HandFinish Hand Finishing	Chemical Conversion Coat per OSI005 4.1 <i>N/A</i> Memo	0.00 0.00							
140 *140* Powdercoat Powder Coating	Green Sandtex(Ref:4.3.5.8) per OSI005 4.3 <i>M 134098</i> Memo START TIME: <i>8:30</i> OVEN TEMPERATURE: <i>320</i> FINISH TIME: <i>9:00</i>	0.00 0.00							<i>2</i> <i>8/1607-26</i> <i>338</i>
150 *150* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							<i>(2)</i> <i>DAS 38</i> <i>9-88</i> JUL 21 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
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Packaging

2 FF JUL 27 2018

②

2 DAS 6 9-89 1111 27 7016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	Pressure/Forced ☐	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	☐ Offset/Setup	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	☐ Supplier	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	☐ Training	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	☐ Use for Testing	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	☐ Poor Information	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	☐ Rushing	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	☐ Product Improvement	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	☐ Process Improvement	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

Work Order ID 148786***148786***

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July 08, 2016 10:32:53 AM

Item ID: D3451-045 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Handle And Lock-Down Assembly
Start Date: 7/8/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 8/3/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190							DAS 21	JUL 28 2016	
QC	Memo	0.00					9-89		
Quality Control							DAS 21 9-89	JUL 28 2016	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

July 08, 2016 10:32:52 AM

Page 1

Work Order ID: 148786

148786

Parent Item: D3451-045

D3451-045

Parent Item Name: Handle And Lock-Down Assembly

Start Date: 7/8/2016

Required Date: 8/3/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A 08-06-27 new issue DD verified by:ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3451-5		Manufactured	No			100	Each	10.0000	2	4			
D3451-5									**			JUL 26 2016	DAS 24 9-89
Tube Handle Arm													

Location Loc Qty Loc Code

Mezz2

10

142173

10

GP-211

Purchased

No

100

Each

20.0000

2

4

GP-211

Rubber Handle

JUL 27 2016

Location Loc Qty Loc Code

ST561

20

M132592

20

PB67-43001-103

Manufactured

No

100

Each

5.0000

1

2

PR67-43001-103

Tube Handle

JUL 26 2016

DAS 24 9-89

Location Loc Qty Loc Code

Mezz2

4

142925

4

WA004

1

133766

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

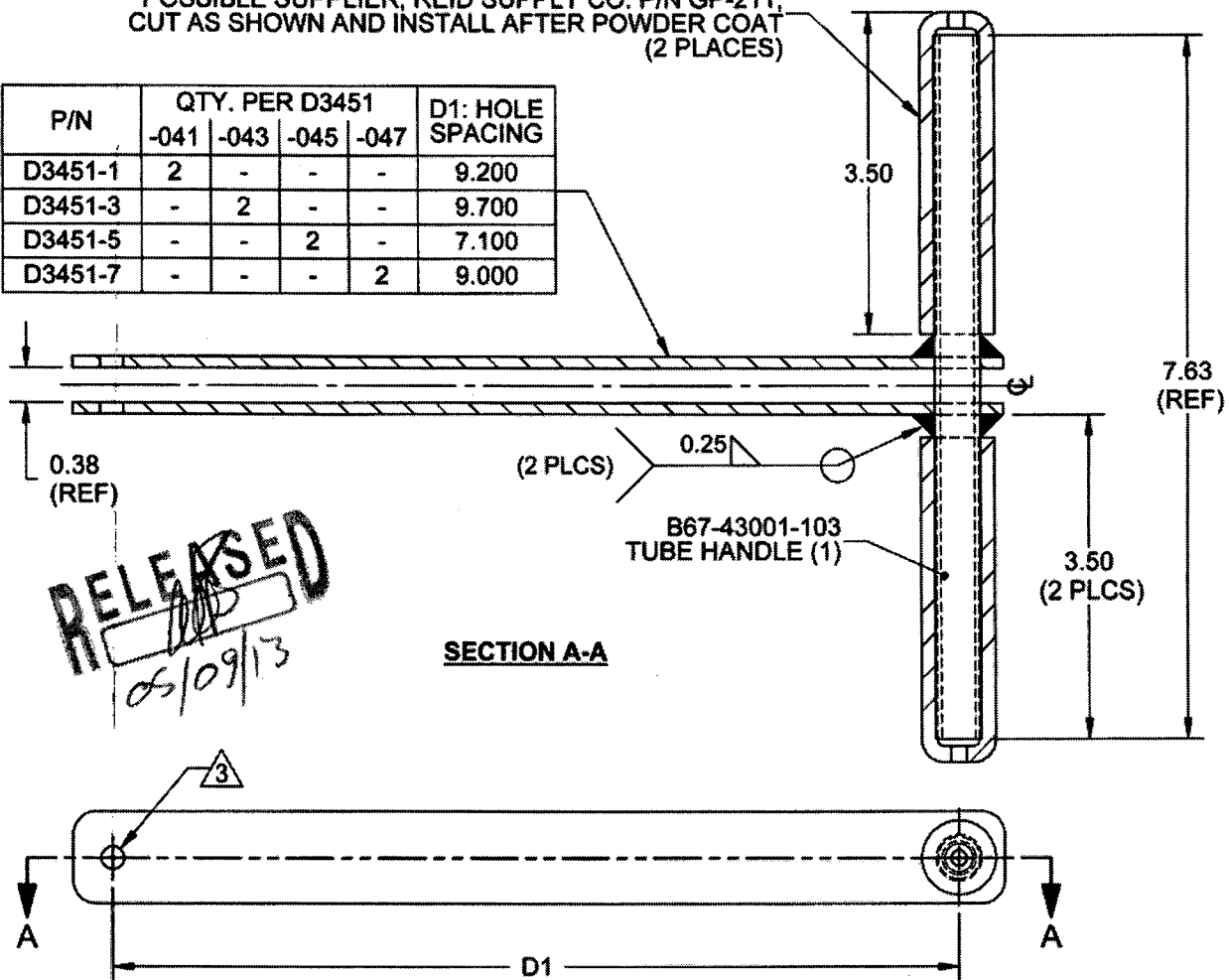
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OTHER : _____																																																																							

DART

DESIGN J	DRAWN BY J	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED J	APPROVED J	DRAWING NO. D3451	REV. A SHEET 1 OF 2
DATE 05.08.25		TITLE HANDLE & LOCK-DOWN ASS'Y	SCALE 1:2
A	05.08.25	NEW ISSUE	

0.50" ID x 4.875" LONG BLACK VINYL HANDLE,
POSSIBLE SUPPLIER, REID SUPPLY CO. P/N GP-211,
CUT AS SHOWN AND INSTALL AFTER POWDER COAT
(2 PLACES)

P/N	QTY. PER D3451				D1: HOLE SPACING
	-041	-043	-045	-047	
D3451-1	2	-	-	-	9.200
D3451-3	-	2	-	-	9.700
D3451-5	-	-	2	-	7.100
D3451-7	-	-	-	2	9.000



RELEASED
05/09/13

SECTION A-A

D3451-041/-043/-045/-047 HANDLE & LOCK-DOWN ASS'Y

D3451-041 SUPERSEDES PREMIER P/N B67-43001-41

D3451-045 SUPERSEDES PREMIER P/N B67-43001-39

D3451-047 SUPERSEDES PREMIER P/N B67-43001-55

NOTES:

- 1) WELD PER DART QSI 004
- 2) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) MASK BEFORE PAINTING.
- 4) FINISH: POWDER COAT PAINT GREEN SANDTEX (4.3.5.8) PER DART QSI 005 4.3
- 5) PART IS SYMETRICAL ABOUT CENTER LINE.
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES
- 8) BREAK ALL SHARP EDGES 0.005 TO 0.010

54
148786
7/12/16

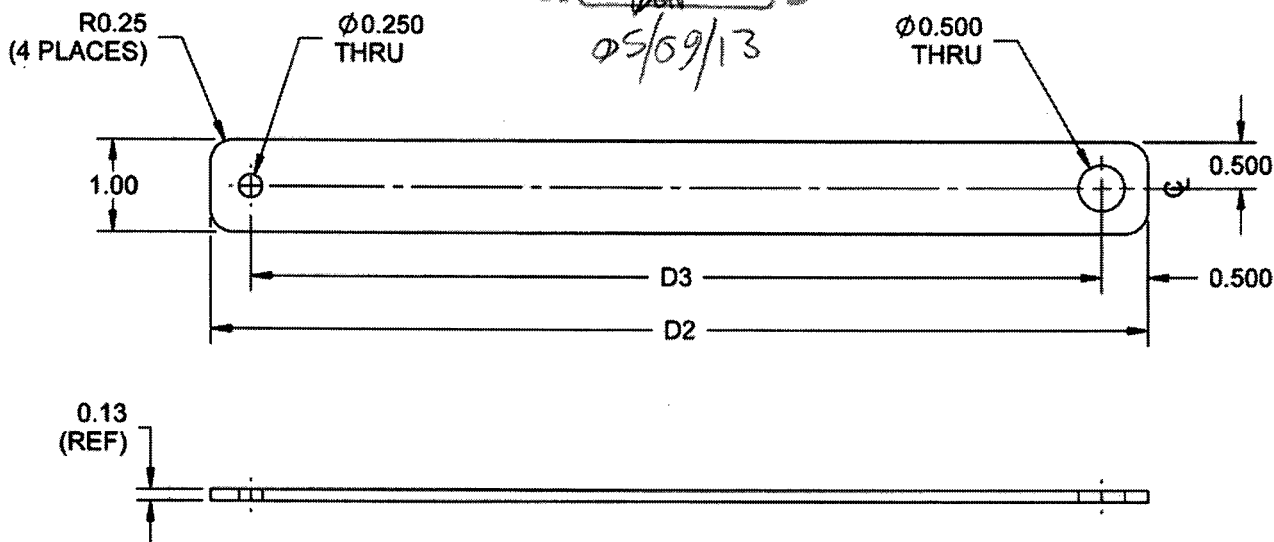
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DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3451	REV. A SHEET 2 OF 2
DATE 05.08.25		TITLE HANDLE & LOCK-DOWN ASS'Y SCALE 1:2	

RELEASED
[Signature]
05/09/13



P/N	D2: CUT LENGTH	D3: HOLE SPACING
D3451-1	10.25	9.200
D3451-3	10.63	9.700
D3451-5	8.00	7.100
D3451-7	10.00	9.000

D3451-1/-3/-5/-7 TUBE HANDLE ARMS

D3451-1 SUPERSEDES PREMIER P/N B67-43001-303

D3451-5 SUPERSEDES PREMIER P/N B67-43001-301

D3451-7 SUPERSEDES PREMIER P/N B67-43001-101

NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B0.125)
- 2) PART IS SYMETRICAL ABOUT CENTER LINE.
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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